UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,173	11/13/2006	Toshitake Kobayashi	396.46088X00	4099

20457 7590 06/22/2007

ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER
DICUS, TAMRA

ART UNIT	PAPER NUMBER
1774	

NOTIFICATION DATE	DELIVERY MODE
06/22/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

officeaction@antonelli.com
dprater@antonelli.com
tsampson@antonelli.com

Office Action Summary	Application No.	Applicant(s)	
	10/574,173	KOBAYASHI ET AL.	
	Examiner	Art Unit	
	Tamra L. Dicus	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) 1 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-28 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 11 is objected to because of the following informalities: "ethyleneoxide-modified" should be separated such as "ethylene oxide". Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims refer to a low-luster, low-gloss, high gloss, small and large thicknesses which are relative terms, which renders the claim indefinite. The terms "low-luster", "low-gloss", "high gloss" "small" and "large" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

See also claims 7 and 21, for same rationale applied to relative term "close". Further to claim 7, it is not clear what is intended by "plus-side value of a maximum thickness".

To claim 18, that a low-gloss region "corresponding to" a vessel portion is not clear because the claim does not set forth how the region corresponds to a vessel portion.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11, 12-16, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 6,326,074 to Takahashi.

Takahashi teaches per instant Claim 1. (Original) A decorative material comprising at least a substrate (1, FIGS. 1E and 2 and associated text, of penetrable paper), a low-luster pattern ink layer (3, FIGS. 1E and 2 and associated text, of the same ink compositions comprising pigments, silica (extender), and resins as in [0076] as in instant specification, thus functioning as low-luster inks) partially formed on the substrate, and a surface protective layer (6, FIGS. 1E and 2 and associated text) which is present on and contacted with the low-luster pattern ink layer so as to cover a whole surface including both a region where the low-luster pattern ink layer is formed (see regions where 3 is present) and a region where no low-luster pattern ink layer is formed (see regions where 3 is not present), wherein the surface protective layer is formed by crosslinking and curing an ionizing radiation-curable resin composition (methacrylate or vinyl acetate or epoxy resins), and provided therein with a low-gloss region which is located in a portion just above the low-luster pattern ink layer (see region above 3, FIGS. 1E and 2 and associated text) and in the vicinity of the portion, and visually recognized as a concave portion (see upper concave portions illustrated in topcoat 6, FIGS. 1E and 2, 4:61-63, Example 1) and the low-gloss region has a convex shape (see convex shape in FIGS. 1E and 2). Color solid

print (2, FIGS. 1E and 2, and associated text), Takahashi teaches has an additional function to prevent the penetration of the ink (4:40-41), and thus functions as the instant penetration – preventing layer. Takahashi teaches attachment of the sheet to various adherends such as walls (7:50-60) and laminated onto wood or glass plates (4:20-36). Claims 1, 12-16, 19, are met.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2 –4, 23-26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Tsukada et al.

Takahashi essentially teaches the claimed invention (see materials above for claims 2, 23-26, and 28).

Takahashi does not teach instant claim 2, namely the ink layer containing a non-crosslinked urethane resin and methacrylate for the ionizing radiation-curable resin, or instant claim 3 unsaturated polyester or claim 4.

Tsukada teaches a similar decorative material comprising an ink comprising either an ionizing radiation-curable resin or it's mixture with an ionizing uncurable resin vehicle (binder) employing urethane, polyesters or an acrylic acid modified polyester (similar structure to

unsaturated polyester, thus similar properties expected) and a (meth)acrylate monomer (3:10-15, 3:65-68, 4:1-50, 7:60-68, 8:45-68, 9:9-30).

It would have been obvious to one having ordinary skill in the art to have modified the decorative material of Takahashi to use an uncurable resin and methacrylate monomer because Tsukada teaches they are conventional resins used in inks and similar layers in a decorative material sheet (3:10-15, 3:65-68, 4:1-50, 7:60-68, 8:45-68, 9:9-30). To instant claim 4, choosing solely methacrylate monomer is an obvious choice resin since Tsukada teaches a variety of resins in a list, picking only one is obvious because the same results are expected.

Claim 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi.

Takahashi essentially teaches the claimed invention.

Takahashi does not teach instant claims 5-6.

To instant claims 5-6, the thickness is not recited, however, it is submitted the optimal and/or claimed values of the respective material would have been obvious to the skilled artisan at the time the invention is made since it has long being held that such discovery, such as an optimum value of the respective result effective variable involves only routine skill in the art. *In re boesch*, 617 F.2d 272,205 USPQ 215(CCPA 1980).

5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Tsukada et al.

6. The combination is relied upon above.

The combination does not teach the thickness recited, however, it is submitted the optimal and/or claimed values of the respective material would have been obvious to the skilled artisan at the time the invention is made since it has long being held that such discovery, such as an optimum value of the respective result effective variable involves only routine skill in the art. *In re boesch*, 617 F.2d 272,205 USPQ 215(CCPA 1980).

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Tsukada et al. and further in view of Ogawa.

7. The combination is relied upon above.

The combination does not teach the particles as per instant claim 21.

Ogawa teaches fine particles, particularly, baked kaolin which is a widely known filler and used as an equivalent to calcium carbonate and mixed with silica applied to a variety of films and coating resin compositions (9:30-68,10:1-55).

It would have been obvious to one having ordinary skill in the art to have modified the decorative material of Takahashi to include the ingredients as claimed because Ogawa teaches baked kaolin is a widely known filler used as equivalents to calcium carbonate and mixed with silica (10:1-15) applied to a variety of films (9:30-68). Further, it is submitted the optimal and/or claimed values of the respective material would have been obvious to the skilled artisan at the time the invention is made since it has long being held that such discovery, such as an optimum value of the respective result effective variable involves only routine skill in the art. *In re boesch*, 617 F.2d 272,205 USPQ 215(CCPA 1980).

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Tsukada et al. and further in view of 4,855,184 to Klun et al.

The combination is relied upon above.

The combination does not teach the particles as per instant claim 22.

Klun teaches a radiation-curable coating protective layer of ethylene oxide and propylene oxide with N-methylolacrylaimdes for wood or plastic coatings; see further 1:1-10, 18: 25-30, 20:19-30.

Ogawa teaches fine particles, particularly, baked kaolin which is a widely known filler and used as an equivalent to calcium carbonate and mixed with silica applied to a variety of films and coating resin compositions (9:30-68,10:1-55).

It would have been obvious to one having ordinary skill in the art to have modified the decorative material of the combination to include the ingredients as claimed because Klun teaches it is a composition for radiation –curable protective coatings for plastic and wood substrates and Ogawa teaches baked kaolin is a widely known filler used as equivalents to calcium carbonate and mixed with silica (10:1-15) applied to a variety of films (9:30-68).

8. Claim 7-11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of 4,855,184 to Klun et al. and USPN 5,266,397 to Ogawa et al.

Takahashi essentially teaches the claimed invention above.

Takahashi discloses the ionizing radiation curable resin composition for the surface protecting layer. Takahashi does not expressly teach the composition recited per instant claim 11. Takahashi teaches pigments and fine powders of calcium carbonate, and silica may be

further additives within the ionizing radiation curing resin (7:10-20), which the surface layer is comprised of. However, Takahashi does not teach baked kaolin per instant claim 11.

Klun teaches a radiation-curable coating protective layer of ethylene oxide and propylene oxide with N-methylolacrylaimdes for wood or plastic coatings; see further 1:1-10, 18: 25-30, 20:19-30.

Ogawa teaches fine particles, particularly, baked kaolin which is a widely known filler and used as an equivalent to calcium carbonate and mixed with silica applied to a variety of films and coating resin compositions (9:30-68,10:1-55).

It would have been obvious to one having ordinary skill in the art to have modified the decorative material of Takahashi to include the ingredients as claimed because Klun teaches it is a composition for radiation –curable protective coatings for plastic and wood substrates and Ogawa teaches baked kaolin is a widely known filler used as equivalents to calcium carbonate and mixed with silica (10:1-15) applied to a variety of films (9:30-68).

Takahashi does not expressly teach all the values recited per instant claims 7-10. It is submitted the optimal and/or claimed values of the respective material would have been obvious to the skilled artisan at the time the invention is made since it has long being held that such discovery, such as an optimum value of the respective result effective variable involves only routine skill in the art. *In re boesch*, 617 F.2d 272,205 USPQ 215(CCPA 1980). Further to the fine particles, see rational above using fine particles.

Claims 1, 5-6, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,558,799 to Takeuchi et al. in view of Takahashi.

Takeuchi teaches a decorative material in this order : 1, substrate (the Figure and associated text), 2A a penetrating preventing or color layer, 2B contains a pattern print, 2C is a color/penetration preventing layer, having a surface layer 3 on top. All of the layers except the substrate is from the same ionizing curable resin.

Takeuchi does not teach a concave portion and ink in that order laminated over the order as disclosed by Takeuchi and the instant claims.

Takahashi teaches a decorative material comprising at least a substrate (1, FIGS. 1E and 2 and associated text, of penetrable paper), a low-luster pattern ink layer (3, FIGS. 1E and 2 and associated text, of the same ink compositions comprising pigments, silica (extender), and resins as in [0076] as in instant specification, thus functioning as low-luster inks) partially formed on the substrate, and a surface protective layer (6, FIGS. 1E and 2 and associated text) which is present on and contacted with the low-luster pattern ink layer so as to cover a whole surface including both a region where the low-luster pattern ink layer is formed (see regions where 3 is present) and a region where no low-luster pattern ink layer is formed (see regions where 3 is not present), wherein the surface protective layer is formed by crosslinking and curing an ionizing radiation-curable resin composition (methacrylate or vinyl acetate or epoxy resins), and provided therein with a low-gloss region which is located in a portion just above the low-luster pattern ink layer (see region above 3, FIGS. 1E and 2 and associated text) and in the vicinity of the portion, and visually recognized as a concave portion (see upper concave portions illustrated in topcoat 6,

FIGS. 1E and 2, 4:61-63, Example 1) and the low-gloss region has a convex shape (see convex shape in FIGS. 1E and 2).

It would have been obvious to one having ordinary skill in the art to have modified the decorative material of Takeuchi to include overtop a laminated topcoat surface protective layer and low-gloss pattern as claimed because Takahashi teaches such a covering provides an embossed three-dimensional effect (4:1-15).

The woodgrain pattern of claim 18 is provided by (9:50-60) Takeuchi and embraced (4:45-60, grains, tile patterns) by Takahashi, and would have been expected to produce a pattern as set forth in claim 18.

To instant claims 5-6, the thickness is not recited, however, the same silk screen printing method is used as in the instant specification (9:35-40, Takeuchi), and materials, and thus the thickness would be expected. It is submitted the optimal and/or claimed values of the respective material would have been obvious to the skilled artisan at the time the invention is made since it has long being held that such discovery, such as an optimum value of the respective result effective variable involves only routine skill in the art. *In re boesch*, 617 F.2d 272,205 USPQ 215(CCPA 1980).

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,558,799 to Takeuchi et al. in view of Takahashi and further in view of Tsukada et al.

Takeuchi teaches a decorative material in this order : 1, substrate (the Figure and associated text), 2A a penetrating preventing or color layer, 2B contains a pattern print, 2C is a

color/penetration preventing layer, having a surface layer 3 on top. All of the layers except the substrate is from the same ionizing curable resin.

Takeuchi does not teach a concave portion and ink in that order laminated over the order as disclosed by Takeuchi and the instant claims.

Takahashi teaches a decorative material comprising at least a substrate (1, FIGS. 1E and 2 and associated text, of penetrable paper), a low-luster pattern ink layer (3, FIGS. 1E and 2 and associated text, of the same ink compositions comprising pigments, silica (extender), and resins as in [0076] as in instant specification, thus functioning as low-luster inks) partially formed on the substrate, and a surface protective layer (6, FIGS. 1E and 2 and associated text) which is present on and contacted with the low-luster pattern ink layer so as to cover a whole surface including both a region where the low-luster pattern ink layer is formed (see regions where 3 is present) and a region where no low-luster pattern ink layer is formed (see regions where 3 is not present), wherein the surface protective layer is formed by crosslinking and curing an ionizing radiation-curable resin composition (methacrylate or vinyl acetate or epoxy resins), and provided therein with a low-gloss region which is located in a portion just above the low-luster pattern ink layer (see region above 3, FIGS. 1E and 2 and associated text) and in the vicinity of the portion, and visually recognized as a concave portion (see upper concave portions illustrated in topcoat 6, FIGS. 1E and 2, 4:61-63, Example 1) and the low-gloss region has a convex shape (see convex shape in FIGS. 1E and 2).

It would have been obvious to one having ordinary skill in the art to have modified the decorative material of Takeuchi to include overtop a laminated topcoat surface protective layer

and low-gloss pattern as claimed because Takahashi teaches such a covering provides an embossed three-dimensional effect (4:1-15).

The combination does not teach instant claim 2, namely the ink layer containing a non-crosslinked urethane resin and methacrylate for the ionizing radiation-curable resin.

Tsukada teaches a similar decorative material comprising an ink comprising either an ionizing radiation-curable resin or it's mixture with an ionizing uncurable resin vehicle (binder) employing urethane, polyesters or an acrylic acid modified polyester (similar structure to unsaturated polyester, thus similar properties expected) and a (meth)acrylate monomer (3:10-15, 3:65-68, 4:1-50, 7:60-68, 8:45-68, 9:9-30).

It would have been obvious to one having ordinary skill in the art to have modified the decorative material of the combinatoin to use an uncurable resin and methacrylate monomer because Tsukada teaches they are conventional resins used in inks and similar layers in a decorative material sheet (3:10-15, 3:65-68, 4:1-50, 7:60-68, 8:45-68, 9:9-30).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is 571-272-1519. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tamra L. Dicus
Examiner
Art Unit 1774

June 11, 2007

RENA DYE
SUPERVISORY PATENT EXAMINER
AU 1774